

Listing of Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) A semiconductor device comprising: a first electrode of a metal, a ferroelectric film containing Ti formed ~~above~~ over the first electrode, and a second electrode of a metal formed ~~above~~ over the ferroelectric film, ~~at least one of both~~ the first electrode and the second electrode being an electrode of a base metal, the semiconductor device further comprising ~~an~~ a first intermediate layer of perovskite crystal structure formed between the first electrode ~~of the base metal~~ and the ferroelectric film, materials of the first intermediate layer being different from materials of the first electrode, ~~the second electrode~~ and the ferroelectric film, the intermediate layer containing Ti, and
a second intermediate layer of perovskite crystal structure formed between the ferroelectric film and the second electrode, materials of the second intermediate layer being different from materials of the ferroelectric film and the second electrode, the second intermediate layer containing Ti.

2. (Currently Amended) A semiconductor device according to claim 1, wherein the first or second intermediate layer is BaTiO₃ layer, SrTiO₃ layer, or CaTiO₃ layer.

3. (Currently Amended) A semiconductor device according to claim 2, wherein the first or second intermediate layer further contains at least any element of Ca, Sr, Ti, Pb, Bi, rare earth element, Nb, Ta, W, Mo, Fe, Co, Cr, and Zr.

Listing of Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) A semiconductor device comprising: a first electrode of a metal, a ferroelectric film containing Ti formed ~~above~~ over the first electrode, and a second electrode of a metal formed ~~above~~ over the ferroelectric film, ~~at least one of both~~ the first electrode and the second electrode being an electrode of a base metal, the semiconductor device further comprising ~~an~~ a first intermediate layer of perovskite crystal structure formed between the first electrode ~~of the base metal~~ and the ferroelectric film, materials of the first intermediate layer being different from materials of the first electrode, ~~the second electrode~~ and the ferroelectric film, the intermediate layer containing Ti, and
a second intermediate layer of perovskite crystal structure formed between the ferroelectric film and the second electrode, materials of the second intermediate layer being different from materials of the ferroelectric film and the second electrode, the second intermediate layer containing Ti.

2. (Currently Amended) A semiconductor device according to claim 1, wherein the first or second intermediate layer is BaTiO₃ layer, SrTiO₃ layer, or CaTiO₃ layer.

3. (Currently Amended) A semiconductor device according to claim 2, wherein the first or second intermediate layer further contains at least any element of Ca, Sr, Tl, Pb, Bi, rare earth element, Nb, Ta, W, Mo, Fe, Co, Cr, and Zr.

4-6. (Canceled)

7. (Previously Presented) A semiconductor device according to claim 1, wherein the base metal is Ni, Cu or Cr.

8. (Previously Presented) A semiconductor device according to claim 2, wherein the base metal is Ni, Cu or Cr.

9. (Previously Presented) A semiconductor device according to claim 3, wherein the base metal is Ni, Cu or Cr.

10. (Original) A semiconductor device according to claim 1, wherein the ferroelectric film is lead-based oxide ferroelectric film.

11. (Original) A semiconductor device according to claim 10, wherein the lead-based oxide ferroelectric film is $\text{PbZr}_x\text{Ti}_{1-x}\text{O}_3$ film.

12. (Original) A semiconductor device according to claim 11, wherein the $\text{PbZr}_x\text{Ti}_{1-x}\text{O}_3$ film further contains at least any element of La, Sr and Ca.

13. (Original) A semiconductor device according to claim 1, wherein the ferroelectric film is $(\text{AO})_2(\text{B}_{Y-1}\text{C}_Y\text{O}_{3Y+1})$ film wherein A is at least any element of Tl, Pb, Bi and rare earth element; B is at least any element of Bi, Pb, Ca, Sr and Ba; C is and Y is any of 2, 3, 4 and 5.

14. (Original) A semiconductor device according to claim 13, wherein the ferroelectric film is bismuth layer structure ferroelectric film.

15. (Previously Presented) A semiconductor device according to claim 14, wherein the bismuth layer structure ferroelectric film is $\text{Bi}_2\text{Ba}_2\text{Ti}_3\text{O}_{12}$ film or $\text{Bi}_2\text{Ca}_3\text{Ti}_4\text{O}_{15}$ film.

16. (Currently Amended) A semiconductor device comprising a capacitor including a first electrode of a metal, a ferroelectric film containing Ti formed ~~above~~ over the first electrode, and a second electrode of a metal formed ~~above~~ over the ferroelectric film, ~~at least one of both~~ the first electrode and the second electrode being an electrode of a base metal; and a transistor electrically connected to the first electrode or the second electrode, the semiconductor device further comprising

~~an a~~ a first intermediate layer of perovskite crystal structure formed between the first electrode ~~of the base metal~~ and the ferroelectric film, materials of the first intermediate layer being different from materials of the first electrode, ~~the second electrode~~ and the ferroelectric film, the first intermediate layer containing Ti, and

a second intermediate layer of perovskite crystal structure formed between the ferroelectric film and the second electrode, materials of the second intermediate layer being different from materials of the ferroelectric film and the second electrode, the second intermediate layer containing Ti.

17. (Withdrawn) A method for fabricating a semiconductor device comprising the step of forming a first electrode, the step of forming a ferroelectric film above the first electrode, and the step of forming a second electrode above the ferroelectric film, further comprising

the step of forming an intermediate layer which is crystallizable into perovskite structure after the step of forming the first electrode and before the step of forming the ferroelectric film and/or after the step of forming the ferroelectric film and before the step of forming the second electrode.

18. (Withdrawn) A method for fabricating a semiconductor device according to claim 17, wherein in the step of forming the intermediate layer, the intermediate layer is formed in an inert atmosphere.

19. (Withdrawn) A method for fabricating a semiconductor device according to claim 17, wherein the intermediate layer and the ferroelectric film are formed without exposed to ambient atmosphere.

20. (New) A semiconductor device comprising:

a first electrode of a base metal, a ferroelectric film formed over the first electrode, and a second electrode of a noble metal formed over the ferroelectric film, the semiconductor device further comprising;

an intermediate layer of perovskite crystal structure formed between the first electrode and the ferroelectric film, materials of the intermediate layer being different from materials of the first electrode and the ferroelectric film.

21. (New) A semiconductor device comprising:

a first electrode of a noble metal, a ferroelectric film formed over the first electrode, and a second electrode of a base metal formed over the ferroelectric film, the semiconductor device further comprising;

an intermediate layer of perovskite crystal structure formed between the ferroelectric film and the second electrode, materials of the intermediate layer being different from materials of the ferroelectric film and a second electrode.

22. (New) A semiconductor device comprising:

a capacitor including a first electrode of a base metal, a ferroelectric film formed over the first electrode, and a second electrode of a noble metal formed over the ferroelectric film; and

a transistor electrically connected to the first electrode or the second electrode, the semiconductor device further comprising:

an intermediate layer of perovskite crystal structure formed between the first electrode and the ferroelectric film, materials of the intermediate layer being different from materials of the first electrode and the ferroelectric film.

23. (New) A semiconductor device comprising:

a capacitor including a first electrode of a noble metal, a ferroelectric film formed over the first electrode, and a second electrode of a base metal formed over the ferroelectric film; and

a transistor electrically connected to the first electrode or the second electrode, the semiconductor device further comprising:

an intermediate layer of perovskite crystal structure formed between the ferroelectric film and the second electrode, materials of the intermediate layer being different from materials of the ferroelectric film and second electrode.